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AUDUBON SUGAR SCHOOL

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AUDUBON SUGAR SCHOOL

The Audubon Sugar School was established in 1891 to meet the demand of the sugar planters of Louisiana for the highest scientific training in the growing of sugar cane and in the technology of sugar manufacture. It was at first located at the Sugar Experiment Station of the Louisiana State University, at Audubon Park in New Orleans, where it was conducted under the immediate direction of Dr. Wm. C. Stubbs. In 1897 it was removed to the University at Baton Rouge, where its students have the advantage of thorough instruction in the laboratories and shops of the University, and are still sent to the Sugar Experiment Station at Audubon Park for practical work during the grinding season.

The Audubon Sugar School has been continually improved along with the other departments of the University, and has attracted widespread and favorable attention not only in the United States but in foreign countries. Mr. Norman Lamont, the English sugar expert, while discussing the condition of the sugar industry of the British West Indies in 1902 in an article in the *Empire Review* of London, suggests, among other improvements, that "the proprietor may officer his plantation with trained American men; and the parent may send his son to receive that *superlative technical education* offered to all comers of whatsoever nationality by the State University of Louisiana, to whose gifted professor of agriculture I am deeply indebted not only for valuable information placed at my disposal, but for the facilities given me for studying, on the spot, the working of that *admirable sugar school*, over which he presides."

The students of this department of the University have come from nearly every sugar producing country in the world; while the demand for their services, after taking the sugar course wholly or even partly, has been for several years far greater than the supply. It is doubtful whether any engineering department of any university or college of technology in the United States can offer to its students a surer prospect of prompt and profitable employment than the Audubon Sugar School. The positions open

to sugar chemists, sugar engineers, and factory superintendents are so tempting that many of the students either take special courses or leave the University before completing the regular course. Some of the older students are now receiving salaries of about \$10,000 a year, while several who graduated within the last five or six years are being paid from \$3000 to \$5000 a year.

OBJECTS.

The Sugar School has two aims. The first is to prepare sugar experts for the conduct and management of large factories—men who understand the planting and cultivation of the cane, harvesting it, extracting the juices therefrom, and manufacturing the latter by the most improved processes and most economical methods into sugar; who know how to design, construct and arrange machinery capable of performing definite work during a given time, and to superintend intelligently all this machinery; and who are, at the same time, capable of analyzing any product of the field or sugar-house in the laboratory. To this end, special attention is devoted to the thorough study of mechanics, chemistry, sugar-making, drawing, and agriculture. This constitutes the regular course, which leads to the degree of Bachelor of Science.

The second aim is to give to those who do not wish the full course partial instruction in the different departments of sugar growing and manufacture. Therefore, special students are received in the following departments: Agriculture, Mechanics, Chemistry, Drawing and Sugar-Making.

REGULAR COURSE.

The Audubon Sugar School offers a two years advanced course in agriculture, mechanics, chemistry, sugar-making, and drawing, as applied to the manufacture of sugar from sugar-cane or beets. This is essentially a professional course, and is intended for such graduates or advanced students in the scientific courses of this and other institutions as may be prepared to take advantageously the work offered. This work is given in the fourth and fifth years of the sugar engineering course as outlined below. The requirements for admission to this advanced course are those

subjects, outlined in the first, second, and third years, which are essential to the proper understanding of the subjects of the fourth and fifth years.

SUGAR ENGINEERING COURSE.

FRESHMAN CLASS.

3 English	3 English
3 Higher Algebra	3 Higher Algebra
3 Solid Geometry	3 Trigonometry
3 French or Spanish or German	3 French or Spanish or German
*6 Drawing	*6 Drawing
*6 Shopwork	*6 Shopwork

SOPHOMORE CLASS.

3 Agriculture—Principles	3 Agriculture—Farm Crops
3 Spherical Trigonometry and Advanced Algebra	3 Calculus
3 Analytic Geometry	3 Physics—Elementary Mechanics
3 General Chemistry	3 General Chemistry
*4 Chemistry Laboratory	*4 Chemistry Laboratory
*6 Drawing	*6 Drawing
*6 Shopwork	*6 Shopwork
	*4 Physics Laboratory

JUNIOR CLASS.

3 Agriculture—Soil Physics	3 Power Transmission
3 Calculus	3 Calculus
3 Physics—Theoretical Mechanics	3 Physics—Heat and Light
3 Organic Chemistry	3 Organic Chemistry
3 Descriptive Geometry	*10 Chemistry Laboratory—Quantitative Analysis
*4 Chemistry Laboratory—Qualitative Analysis	*6 Machine Design
*6 Machine Design	

AUDUBON SUGAR SCHOOL.

FOURTH YEAR..

Ten weeks of practical work at Audubon Park. The remaining time is devoted to the following subjects:

1 Agricultural Chemistry	1 Agricultural Chemistry
6 Thermodynamics	4 Sugar-House Machinery
6 Machine Design	3 Agriculture—Feeding
*8 Chemistry Laboratory	2 Industrial Chemistry
*8 Machine Design	3 Power Plants
	*10 Chemistry Laboratory
	*6 Machine Design

FIFTH YEAR.

Ten weeks of practical work at Audubon Park. The remaining time is devoted to the following subjects:

6 Sugar Mill Plants	3 Veterinary Hygiene
2 Sugar Agriculture	2 Sugar Agriculture
3 Sugar Chemistry	3 Sugar Chemistry
*6 Sugar Machine Design	*6 Sugar Machine Design
*6 Engineering Laboratory	*6 Engineering Laboratory
*10 Chemistry Laboratory	*10 Chemistry Laboratory

In the above outline, the numerals indicate the number of recitations or lectures per week; the starred numerals, the number of hours per week devoted to drawing, laboratory, or shop-work. Three hours of this work are considered equivalent to one hour of lecture or recitation. The left column represents the first term; the right column, the second term.

SPECIAL COURSES.

Students who have not the time to complete the regular sugar course, may select special courses consisting of any of the above subjects they are prepared to take. These courses may be of any desired length. They afford an excellent opportunity for sugar makers, engineers, or planters to perfect their knowledge of the principles upon which their practical work is done.

WORK AT AUDUBON PARK.

Ten weeks, during the grinding season, of the fourth and fifth years of the sugar course are spent at the Sugar Experiment Station, Audubon Park, New Orleans. The Sugar Station has a splendidly equipped sugar-house, fields of sugar-cane, and laboratories where thorough chemical control is held over the field and sugar-house. The sugar-house contains a nine-roller mill, a new and improved diffusion plant, with several kinds of cutters and comminutors; clarifiers, filter presses, double effect, vacuum pans, crystallizers, centrifugals, boilers; water, air and vacuum pumps; juice and syrup tanks, sugar wagons, sugar shakers, and a hot room.

While at Audubon Park, the student receives practical instruction in the best methods of planting, cultivating, and harvesting cane, the study of its varieties, the fertilizers best adapted to its growth, and the effects of irrigation, tile and open drainage, upon the crop. He is also taught a process of germi-

nating cane seeds and shown the actual plant as germinated from the seed. This process of producing new varieties of cane is attracting great attention throughout the sugar world and has proven extremely beneficial to the planters of Louisiana, as well as other tropical countries. In the sugar-house the student takes part in the manufacture of sugar from the cane, and is given a practical knowledge of sugar-making. Each student, in turn, serves with the sugar-maker, engineer, and chemist, and during the season becomes practically familiar with all the operations incident to a well equipped sugar factory.

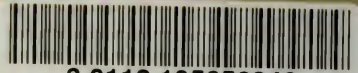
SUGAR-HOUSE CONTROL.

After the student has thoroughly learned to analyze sugar-cane, beets, etc., and the products of the sugar-house, he is called upon to exercise a chemical control of the sugar-house. To this end, examples are given him, taken from absolute and practical results in the sugar-house at Audubon Park, and he is made to work out the chemical and mechanical losses incident to each run. Given a definite quantity of cane, he is required to find out the extraction, analyze the juice, determine the total sugar therein, and the amount lost in the processes of clarification and filtration, the mechanical and chemical losses in the double and triple effects and vacuum pans, the amount left in the masse cuite, in the molasses, etc. In other words, a thorough chemical and mechanical control of the sugar-house is taught.

ENTRANCE REQUIREMENTS.

To enter the Freshman Class of the regular course, the applicant must have a thorough knowledge of Arithmetic, Algebra through Quadratics, and Plane Geometry, with corresponding advancement in other subjects. Applicants presenting diplomas from the State high schools or satisfactory certificates covering the requirements for entrance will be admitted without examination, and students may receive credit for parts of the course by examination on entrance or by satisfactory certificates from other colleges.

Applicants over eighteen years of age will be admitted to special courses without examination, provided they satisfy the president and the professors concerned that they are prepared to take the subjects selected.



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EXPENSES.

Tuition is free to all students from Louisiana. Students from other states or foreign countries are charged a tuition fee of \$60 a year. Students may board either in the town or in barracks at the University. Board costs from \$15 to \$25 per month in the town, \$10 per month at the University. Incidental fee, \$5 a year. Laboratory fees for students of the Sugar Course are as follows: Freshman—Shopwork, \$5. Sophomore—Chemistry, \$10; Physics, \$2.50; Shopwork, \$8. Junior—Chemistry, \$10. Fourth Year—Chemistry, \$10. Fifth Year—Engineering, \$6; Chemistry, \$15. Students who board at the University also pay \$5 a year for furniture rent and \$8 a year for surgeon and hospital fees.

Besides the Audubon Sugar School, the University has a Law Department in which special attention is devoted to Roman and Civil Law, and the usual departments of Colleges of Arts and Sciences, of Engineering, and of Agriculture and Mechanic Arts. Its strong faculty, consisting of experienced teachers and specialists trained in the best universities in this country and in Europe, give thorough courses of instruction in Mathematics, Languages, Sciences, Agriculture, Commerce, Engineering (Civil, Electrical, Mechanical and Chemical), Law, and Philosophy and Education. It has thirty-six buildings in extensive grounds famous for beauty, healthfulness, and historic interest; a large library in the handsome Hill Memorial Building; and well equipped laboratories, workshops and experiment stations.

The attendance of students for the first month this session was 588; for the first month last session, 492. There are now 54 students from foreign countries, as follows: 22 from Cuba, 10 from Porto Rico, 9 from Mexico, 6 from Costa Rica, 2 from Hawaii, 2 from Panama, 1 from England, 1 from Peru, and 1 from Spain.

The annual session opens on the third Wednesday in September and closes on the first Wednesday in June. The second term, or half session, begins on the last Monday in January. Students are received at any time during the session, but are advised to enter at the beginning of a term.

For further information or catalogue, address Thos D. Boyd, President, Baton Rouge, La., or R. E. Blouin, Assistant Director, Sugar Experiment Station, Audubon Park, New Orleans, La.